To: Wands, James[James.Wands@hdrinc.com]
Cc: Garland, Edward[Edward.Garland@hdrinc.com]; Vaughn, Stephanie[Vaughn.Stephanie@epa.gov]; Kirchner, Scott[KirchnerSF@cdmsmith.com]; Peter Oates[poates@anchorqea.com]; John Connolly[jconnolly@anchorqea.com]; Robert Law[rlaw@demaximis.com]
From: Peter Israelsson
Sent: Fri 1/23/2015 11:33:21 PM
Subject: RE: Particle mixing rate question

James –

Thank you for pointing this out to us – it is a good catch. The zero values are an input error in a recent change to a preprocessor, which impacted cells categorized as mildly depositional. The majority of these cells are outside of the LPR (also shown on your map), and our initial ongoing runs indicate that the calibration is not strongly impacted by the corrected surface mixing values. The correction will be included in ongoing calibration refinements.

Do you have an update on the partitioning analysis questions from earlier this month? It would help our efforts to understand the water column data usage in parameterizing partition coefficients and their temperature/salinity dependence, so that we can reconcile it with our evaluation of hv-CWCM data.

Thanks,

Peter

Peter H. Israelsson, PhD

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From: Wands, James [mailto:James.Wands@hdrinc.com]

Sent: Wednesday, January 21, 2015 11:56 AM
To: Peter Israelsson; Peter Oates
Cc: Garland, Edward; Vaughn, Stephanie (Vaughn.Stephanie@epa.gov); Kirchner, Scott
Subject: Particle mixing rate question

Peter, Pete,

I am looking at the particle mixing in the contaminant model runs that we received in December. I see that you have implemented 3D particle mixing rates in the bed and the implementation in the code appears to work correctly. I had a question about the input parameterization for the mixing rate. Looking at the inputs it appears there are two distinct profiles for vertical mixing in the model runs we are looking at. Both are identical below 2 cm. One has the highest mixing at the surface and the other has zero mixing at the surface. In the attached figure there is a map on the left with model grid cells colored either red or blue, the center panel has the mixing rate plotted verses depth on an arithmetic scale, and the panel on the right is the same information repeated on a log scale axis. The color on the map indicates the profile used at that location. The red cells are locations where there is no mixing in the top 2 centimeters. You will have to zoom in to see some areas.

Is there a justification for zero mixing at the surface in the red cells, or is this potentially a mistake in the input deck?

Thanks,

James

James Wands, P.E.

Senior Water Quality Modeler

Professional Associate

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